

PRINTERS & SCANNERS

FAQ

Q I've got a digital camera and a photo inkjet. How should I print off photos for the best results?

A You'd expect a photo printer to produce identical results whether you print from its memory card, use a PictBridge USB connection or save the images on to your PC and print from there. In practice, though, PictBridge printing gives you little or no control over print quality, so we would suggest it only if you don't have memory slots or a PC. Printing directly from the memory card is quick and easy, particularly if you have a preview screen, but you may have to delve deep into the menu for the print quality options.

Printing from a PC typically gives you access to the broadest range of quality settings, and gives you the chance to make advanced edits in software. In our tests we usually get the best, though slowest, results when printing from a PC.

Simon Handby
Printers and audio expert

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CANON PIXMA mini220

★★★

£57 inc VAT

Canon's PIXMA mini220 is a compact photo printer, though it looks more like a futuristic toy tank. At £57 including VAT it's very affordable; Epson's PictureMate 240, which won a Best Buy award in *What's New, Shopper* February 2007, costs £75.

Most models in Canon's Selphy range are dye-sublimation printers, but the PIXMA mini220 is an inkjet that takes a single, tiny cartridge. This is fitted under a flip-up top panel that houses the main controls, but it doesn't feel secure when closed.

You can buy the printer's BCI-16 cartridge for about £15. Canon's yield figures say it will print around 66 photos, giving a high cost per page of around 23p without including paper. For a little more money, you can buy a pack, which comes with two cartridges and 100 sheets of glossy photo paper.

The mini220's paper tray folds down at its front. It's unusual in that each sheet is drawn through the printer like a dye-sub, protruding by a couple of inches from the rear before printing begins. Paper isn't flipped over as we'd expect from a conventional U-path feed, so you must load sheets print-side up. Printed photos

come to rest on top of the input tray, but there's little to keep them there and they spill over the desk. We can only assume that Canon's designers expected users to snatch each print up eagerly as soon as it was finished.

Unfortunately, the mini220's print quality makes this scenario unlikely. It prints with only cyan, magenta and yellow inks, and with no dedicated black it has to create the darkest shades using a dense combination of all three. When first printed, areas of black look more



like very dark green. Though they improve if left to dry for a few hours, they don't have the impact we would expect from a good photo print, with dark areas remaining comparatively poorly detailed. All our test prints were sharp and free from banding, though.

When printing from a computer, photos had a warm orange-brown bias, which made for flattering portraits but didn't suit all subjects. Photos printed directly from an SD card seemed more neutral and appeared far more quickly, with six shots taking just six minutes and 48 seconds, which is very fast for an inkjet. The printer's menu system is fairly easy to use. Confusingly, though, there's a separate settings

button in addition to the options available through the main menu. It was slow to read and display each image from our SD card, and you'll need an adaptor if you want to access photos on an xD card.

The mini220's looks divided opinion in the *Shopper* office, and its light cream plastic seemed to get grubby in use quickly. It doesn't feel especially well made and produces disappointing, expensive prints. We would rather spend the extra £18 on the PictureMate 240 instead.

Simon Handby

SUMMARY

- ✓ Affordable
- ✗ Poor print quality
- ✗ Odd design and looks

PHOTO PRINTER Three-colour inkjet, 4,800x1,200dpi resolution, USB Hi-Speed, USB PictBridge and IrDA infrared interfaces
PART CODE 1445B008AA
SUPPLIER www.morecomputers.co.uk
DETAILS www.canon.co.uk

PERFORMANCE (see page 58)



Also consider...

SAMSUNG ML-2510

★★★★★

£61 inc VAT

PRICE CUT!



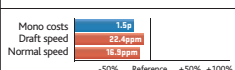
This grey laser printer may look a little drab, but

it's easy to set up and quick to install. It has a 250-sheet covered input tray and a single-sheet multipurpose feed slot, but it crumples envelopes.

The ML-2510 peaked at 22.7ppm when printing text, which is impressive for such an affordable printer. It's also cheap to run, with a cost per page of around 1.5p, yet produces high-quality text and mono graphics. It's a great compact budget mono laser printer.



MONO LASER PRINTER 1,200x600dpi resolution, 24ppm maximum speed, parallel and USB Hi-Speed interfaces
PART CODE ML-2510
SUPPLIER www.printerbase.co.uk
DETAILS www.samsung.co.uk
 ✓ Fast; affordable to buy and run; good print quality
FULL REVIEW Oct 2006



DELL Multifunction Laser Printer 1815dn

★★★★★

£335 inc VAT

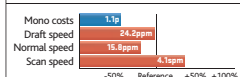


Dell's Multifunction Laser Printer 1815dn can scan in colour and make black-and-white prints

and copies. It has a standard network interface and can print on both sides of a sheet of paper automatically. It produces sharp scans, high-quality text documents and decent copies, though they can be a little too dark. It's fast, easy to use and cheap to run, so it's ideal for a busy office.



MONO LASER MULTIFUNCTION PERIPHERAL 600x600dpi print resolution, 600x1,200dpi scan resolution, USB and 10/100 Ethernet interfaces
SUPPLIER Dell 0879 075818
DETAILS www.dell.co.uk
 ✓ Fast; cheap to run
 ✗ Dark PostScript prints
FULL REVIEW Nov 2006



HP

OfficeJet Pro L7780

★★★★★

£315 inc VAT



You might think buying an MFP for the office user would mean choosing a laser printer device, but HP's OfficeJet Pro L7780 is a heavy-duty inkjet MFP. It prints with four ink colours, each available in a standard or high-yield pack. Using the high-yield supplies, this MFP has the lowest print costs we've seen from an inkjet.

The L7780 is the top model in HP's L7000 series, with features such as automatic double-sided printing and an extra 350-sheet paper tray as standard. However, you must fit both options before you start printing, making the physical setup tricky. You also need to fit two print heads and all four ink tanks. The black tank was prone to misalignment and easy to insert the wrong way.

HP's setup software offers a choice of Recommended and Custom installations. It's

easy to join wireless networks using the MFP's control panel, but the installer couldn't find the device on our regular wireless network. We tried allowing the software to configure it over a wired connection, then inputting the wireless details ourselves, but had no luck with either. We couldn't establish a reason for the failure, but we had no problems when re-attempting the installation using our second wireless network.

Once configured, the L7780's wireless performance was very reliable, with none of our tests failing. The print speeds in our graph were all timed over a wireless connection. We noticed a few pauses during the printing of our highly graphical Normal test. The 3.8 page-per-minute (ppm) result is almost as fast as we've seen from an inkjet, but repeating the test over a USB connection gave a stunning 5.2ppm performance.

Print quality on plain paper was very good, with the L7780's pigment black ink delivering bold and sharp black text. Colour prints were streak-free, too. It's easy to make decent photo prints from a PC or a memory card, though we can't think why most office users would want to.

Prints were acceptably quick over a wireless connection, but scans were less so, with each preview image taking just under three minutes. This slowness was compounded by a frustrating scan interface, which won't let you make multiple scans of a document in the same session and doesn't remember a preview image between sessions. Clicking certain options, such as de-screen, also requires a re-scan without warning. The MFP can scan while servicing incoming print jobs, however, which should help to stop the office grinding to a halt.



The L7780's scanner behaves very differently when connected via USB, with previews taking a more reasonable 10 seconds. The quality of the results is different, too. Scan results were good when scanning wirelessly, but above 600 dots per inch (dpi) scans became blocky, suggesting that the driver was interpolating rather than capturing more detail. Over USB, we saw increased detail up to the 2,400dpi optical maximum, but scans appeared artificially sharpened, even though we had disabled sharpening in the interface.

With a 50-sheet automatic document feeder (ADF), the L7780 can easily make multi-page copies or faxes. For an inkjet, it's a quick copier, with a single-page mono or colour copy taking just 19 seconds. Copying a 10-page original took two minutes and two seconds in black only, and two minutes 25 seconds in colour. The results were much better than most inkjet MFPs, with accurate brightness and colour.

Though it's tricky to set up and its wireless interface isn't ideal for highly graphical scans or printing, the L7780 is flexible and fast, producing good results on a variety of jobs. It's cheaper to buy than an equivalent colour laser MFP, and HP's figures suggest it's also far cheaper to run.

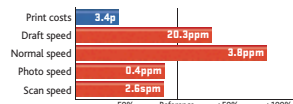
Simon Handby

SUMMARY

- ✓ Fast, high-quality prints and copies
- ✓ Very low running costs
- ✗ Problems with wireless connection

INKJET MULTIFUNCTION PERIPHERAL
4,800x1,200dpi print resolution,
2,400x4,800dpi scan resolution, USB
Hi-Speed, PictBridge USB, 10/100 Ethernet
and 802.11g wireless interfaces
PART CODE CB039A
SUPPLIER <http://uk.insight.com>
DETAILS www.hp.co.uk

PERFORMANCE (see page 58)

EPSON
Perfection 4490
Photo

★★★★★

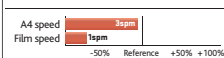
£128 inc VAT



Epson's Perfection 4490 Photo has a high optical resolution and comes with a decent software bundle. It can capture 35mm or 120mm medium format films, and has Kodak's Digital ICE dust reduction, though this didn't work well. Its focus is sharper than most flatbed scanners, and it produced great film scans.

Its price has dropped since our original review, making the 4490 excellent value.

FLATBED SCANNER
4,800x9,600dpi optical
resolution, 48-bit colour depth,
transparency adaptor, USB
Hi-Speed interface
PART CODE B11B176022
SUPPLIER www.more.computers.co.uk
DETAILS www.epson.co.uk
✓ Excellent film scanner
✗ Ineffective dust reduction
FULL REVIEW Nov 2006

KONICA MINOLTA
Magicolor 2500W

★★★★★

£171 inc VAT

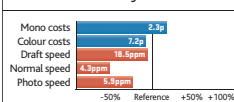


The Magicolor 2500W is one of the cheapest colour laser printers, but it gets the essentials right.

It's compact, easy to set up and use, and produces good-quality prints. With basic paper handling and no scope for upgrades, it isn't suitable for demanding users, but home users will find it great value.



COLOUR LASER PRINTER
600x600dpi resolution, 20ppm
mono/5ppm colour maximum
speed, USB Hi-Speed interface
PART CODE A00V021
SUPPLIER www.printerbase.co.uk
DETAILS www.konicaminolta.com
✓ Affordable, good print quality
✗ Basic paper handling
FULL REVIEW May 2007

HP
Photosmart
D7160

★★★★★

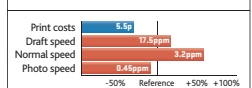
£83 inc VAT



HP's Photosmart D7160 costs less now than it did when it won our Best Buy award. It doesn't produce the best photo quality we've seen, but it's fast, affordable and easy to use. It's equally happy reeling off A4 pages of high-quality text or printing photos directly from a memory card.

We don't think it's worth paying extra for the touch-screen-equipped D7360 when the D7160 is this good.

A4 PHOTO INKJET Six-colour
inkjet, 4,800x1,200dpi
resolution, USB Hi-Speed and
PictBridge USB interfaces
PART CODE Q7047B
SUPPLIER www.amazon.co.uk
DETAILS www.hp.co.uk
✓ Cheap to buy and run; easy
to use FULL REVIEW Jan 2007



CANON PIXMA iP2500

★★★★
£39 inc VAT

Regular *Shopper* readers might be forgiven for thinking we're running a spot-the-difference competition between this printer and the iP1800 reviewed in *What's New, Shopper* July 2007. Apart from two silver-grey inserts, Canon's PIXMA iP2500 looks identical to the iP1800. The two inkjets share a near-identical specification, too. Canon says the iP2500 can print 22 black pages per minute and 17 in colour, compared to 20 black and 16 colour for the iP1800.

The iP2500 comes with a pack of matt photo paper and Canon's Creative CD, which contains a simple set of webpages. These comprise mostly paper craft projects that should prove a useful diversion for long holidays, but you can freely download similar projects from Epson Europe (www.tinyurl.com/258xa3).

The iP2500 uses a black cartridge and a combined tri-colour cartridge, rather than an individual tank for each colour. The supplied items are easy enough to fit, but last only around two-thirds as long as the highest-capacity replacements the printer will accept. Using the supplied cartridges, print costs are slightly high, but acceptable for a budget printer.

The iP2500 is basic, but for an entry-level printer it's very attractive. There's a simple paper input tray and printed pages drop out of the front. Things can get untidy at the fastest print settings, but most jobs stay neat if you keep an area clear in front of the printer. A small lever under the output slot allows the printer to deal



with thicker media such as envelopes, but the printer makes a gentle scraping noise with the lever in either position, even if you're just using paper.

This printer delivers sharp black text at any quality setting and is quite fast. That said, it was only a bit quicker at delivering draft text than the iP1800, which managed 9ppm. It performed almost identically on the mixed text and graphics of our Normal test, and was only significantly faster than the iP1800 at printing photos.

As you might expect for two printers that use the same ink cartridges, the iP2500's output matched the iP1800. Photos, which you can print without borders up to A4 size, were sharp and detailed, but dark colours lacked impact and looked slightly milky, lowering the prints' contrast. Colours in graphics on plain paper also appeared slightly washed out, but they were free of banding or other problems.

This is a decent printer, but it's virtually identical to the iP1800. We would choose the cheaper printer and save £8, or spend another £20 on a printer such as the PIXMA iP4300 (see 'Also consider...', below), which has better performance and lower running costs.

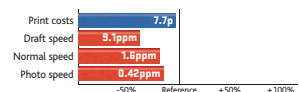
Simon Handby

SUMMARY

- ✓ Affordable
- ✓ Decent all-round print quality
- ✗ PIXMA iP1800 is better value

INKJET PRINTER Four-colour inkjet, 4,800x1,200dpi resolution, USB Hi-Speed interface
PART CODE 1856B008AA
SUPPLIER www.morecomputers.co.uk
DETAILS www.canon.co.uk

PERFORMANCE (see page 58)



CHOOSING A... Laser Printer

Follow the steps to find your ideal specs

RESOLUTION: 1,200x600dpi
MEMORY: 8MB
SPEED: 24ppm
INTERFACES: USB
PAGES PER MONTH: 5,000
PAPER TRAYS: 150-sheet A4
OPTIONS:

Recommended minimum in grey

1 Prices for A4 laser printers with specifications such as those above start at around £70. These models are fine for users who print less than one packet (500 pages) of paper a month. Look for good print quality, flexible drivers and running costs of below 2p per page. Ideally, it should hold paper clean and flat in a horizontal tray and allow manual feeding of headed paper and envelopes with no creasing.

2 You'll have to spend more for a printer with the build quality and speed to cope with a heavy workload. Heavy users or small workgroups need up to 25 pages per minute (ppm), and whole departments need more. Bulk printing demands costs of 1p per page or less.

3 Colour lasers are available for less than £200, but at this price you'll get a four-pass model that will print colour far slower than mono. If colour speed is important, consider spending £400 or more on a faster single-pass model.

4 Support for a printer language such as Printer Control Language (PCL) 6 or PostScript 3 means you can use the printer with any computer and even some PDAs.

5 Not all lasers print graphics well, but a 1,200dpi resolution helps. Colour lasers can often print high-quality graphics, but should have at least 32MB of memory.

6 A network adaptor allows you to connect a printer to an Ethernet network, so all the network users can print to it directly. Smaller groups can use a PC to host and share any printer using Windows' File and Print sharing wizard.

7 Duplex printing is an increasingly affordable option and lets you print on both sides of a sheet of paper automatically. A scanner/fax unit turns your printer into a multifunction peripheral. Large groups should get multiple paper trays to deal with headed paper and other stationery.

Also consider...

CANON PIXMA iP4300

★★★★★
£63 inc VAT

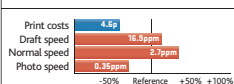


If you need a budget printer, Canon's

PIXMA iP4300 shows that you don't need to compromise on quality. It has two paper trays, and can print on coated CDs or both sides of each sheet of paper. It's fast to produce text, colour graphics and photos. Print quality is high, with no trace of grain, though photos are a little bit oversaturated. Best of all, it has very low running costs.



INKJET PRINTER Five-colour inkjet, 9,600x2,400dpi maximum resolution, USB and PictBridge USB interfaces
PART CODE 1438B008AA
SUPPLIER www.amazon.co.uk
DETAILS www.canon.co.uk
✓ Inexpensive; fast; flexible; stylish; high-quality results
FULL REVIEW Dec 2006



CANON PIXMA MP160

★★★★★
£42 inc VAT



The PIXMA MP160 costs less than many budget inkjet printers, and it can also make good-quality scans and copies. It's compact and attractive and not too tricky to set up. Unusually for such an affordable printer, it has low running costs if you use Canon's high-capacity ink cartridges. It's great value if you just want a basic multifunction peripheral.



FOUR-COLOUR INKJET MFP 4,800x1,200dpi print resolution, 600x1,200dpi scan resolution, USB Hi-Speed and PictBridge USB interfaces
PART CODE 1447B008AA
SUPPLIER www.morecomputers.co.uk DETAILS www.canon.co.uk
✓ Affordable; good results
✗ No card reader
FULL REVIEW Jan 2007

